ABSTRACT

[00122] A process is disclosed for generating at least one partially double-stranded target nucleic acid, which contains at least one single-stranded region at a terminal end. The process comprises the steps of (a) providing at least one primer, P1, containing at least one labile nucleotide; (b) combining at least one target nucleic acid sequence with P1 to generate a double-stranded polynucleotide containing at least one labile nucleotide; (c) exposing the double-stranded polynucleotide to conditions that promote single-strand cleavage of the polynucleotide at the site of the at least one labile nucleotide of primer P1; and (d) exposing the cleaved polynucleotide to conditions that promote the dissociation of the cleaved portions of primer P1 from a terminal end. The labile nucleotide may be dUTP, wherein the single-stranded cleavage of the polynucleotide at the site of the labile nucleotide occurs by treatment with uracil N-glycosylase.